



PENTAGRID CONVERTER

Heater ■ Coated Unipotential Cathode		
Voltage	6.3 [□]	a-c or d-c volts
Current	0.3 ^{□□}	amp.
Direct Interelectrode Capacitances: [○]		
Grid #3 to All Other Electrodes & Base Shell (R-F Input)	9.0	μf
Plate to All Other Electrodes & Base Shell (Mixer Output)	9.0	μf
Grid #1 to All Other Electrodes & Base Shell	7.0	μf
Grid #3 to Plate	0.20 max.	μf
Grid #1 to Grid #3	0.20 max.	μf
Grid #1 to Plate	0.15 max.	μf
Grid #1 to All Other Electrodes & Base Shell Except Cathode	5.0	μf
Grid #1 to Cathode	2.2	μf
Cathode to All Other Electrodes & Base Shell Except Grid #1	6.0	μf
Maximum Overall Length	2-25/32"	
Maximum Seated Height	2-1/4"	
Maximum Diameter	1-3/16"	
Bulb	T-9	
Base	Lock-in 8-Pin	
Pin 1-Heater	Pin 6-Grid #3	
Pin 2-Plate	Pin 7-Cathode	
Pin 3-Grids #2 & #4	Pin 8-Heater	
Pin 4-Grid #1	Plug - Base Shell	
Pin 5-Grid #5		
Mounting Position	BOTTOM VIEW (8AL)	Any
<u>CONVERTER SERVICE</u>		
Plate Voltage	300 max.	volts
Grids #2 & #4 Voltage	100 max.	volts
Grids #2 & #4 Supply Voltage	300 max.	volts
Grid #3 Voltage •	0 min.	volts
Plate & Grids #2 & #4 Dissipation (total)	2.0 max.	watts
Grids #2 & #4 Dissipation	1.0 max.	watt
Total Cathode Current	14 max.	ma.
Characteristics with Separate Excitation: *		
Plate Voltage	100	250 volts
Grids #2 & #4 Voltage	100	100 volts
Grid #3 (Control) Voltage	-2	-2 volts
Grid #5 Voltage	0	0 volts
Grid #1 Resistor	20000	20000 ohms
Plate Resistance	0.5	1 approx. megohm
Conversion Transcond.	525	550 μmhos
Conversion Transcond. with Grid #3 Bias of -35 volts	2	2 approx. μmhos
Plate Current	3.3	3.5 ma.
Grids #2 & #4 Current	8.5	8.5 ma.
Grid #1 Current	0.5	0.5 ma.
Total Cathode Current	12.3	12.5 ma.

■, □, □□, •, ○, * : See next page.

May 1, 1941

RCA RADOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

TENTATIVE DATA

7Q7



7Q7

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(continued from preceding page)

NOTE: The transconductance between Grid #1 and Grids #2 & #4 connected to plate (not oscillating) is approximately 4500 μ mhos under the following conditions: Grids #1, #3, and #5 at 0 volts; Grids #2 & #4 and plate at 100 volts.

■ In circuits where the cathode is not directly connected to the heater, the potential difference between heater and cathode should be kept as low as possible.

□ Nominal voltage = 7.0 volts.

□ Nominal current = 0.32 ampere.

○ With shield-can connected to cathode.

● With self-excited oscillator.

* These characteristics correspond very closely to those obtained with zero bias in a self-excited oscillator circuit.

A typical self-excited converter circuit is shown under Type 6SA7.

May 1, 1941

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